

Appl. No.: 09/808,945
Amdt. Dated: October 22, 2003
Reply to Office Action of: 08/05/2003

REMARKS

Claims 1 - 6 are pending in this application. Claim 4 has been objected to. Reexamination is respectfully requested in light of the following amendment.

These remarks follow the order of the outstanding Office Action beginning on page 2 thereof.

Specification

A new title which is more descriptive of the invention is respectfully submitted. Should the Examiner have any further changes or suggestions regarding the title, it is requested that he telephone the undersigned.

Claim Rejection -- 35 U.S.C. § 102

Claims 1 - 3 and 5 - 6 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Sugiura '872. This rejection is respectfully traversed with respect to claim 3. Claim 3 requires that the zone plates comprise concentric gratings each having a rectangular cross section. Such a structure is shown in Applicant's drawings by cross section in Figures 4 and 5 and depicted as concentric rings in Figure 1. See also the attached dictionary definition of concentric.

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In Applicant's invention, the purpose of the gratings which are responsive to different wavelengths is to provide for two different focal lengths depending upon the wavelength. This feature of the invention is shown in Figures 2A and 2B where the focal length changes in accordance with the incident light wave lengths λ_1 and λ_2 . The '872 reference shows a holographic lens element 50 which is composed of two holographic lens elements 51 and 52. In '872, the gratings are depicted as parallel lines, not concentric gratings as claimed. Still further, in '872 the purpose of the invention is to correct for astigmatism in the system. The stigmatism correction necessarily involves correction with something other than concentric rings because the light sources shown in '872 such as LD1 and LD2 are laser diodes which radiate light radially outward as shown in Figures 1, 4 and 8.

In the rejection of claim 3, the Examiner has relied upon column 9 lines 20 - 45 of '872. However, the Examiner has not explained how the language, column 9 lines 20 - 45, relates at all to the claimed concentric gratings. However, as stated at line 42, the grating pattern eliminates coma aberration spherical aberration and produces a predetermined amount of a stigmatism. All of this is accomplished in the gratings after the light emanates from a given point (see column 9 line 36).

The text relied upon by the Examiner refers to Figure 3. However, Figure 3 in turn relates to Figures 4, 5, 6 and 7. It can easily be seen that the rays emanating from point A undergo

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distortion of the wave surface at surface H, prior to being reflected back to the point PD2 (see Figure 7). The gratings cannot be circular because of the distortions shown in Figures 6 and 7.

On the other hand, Applicant's claim 3 relates to concentric gratings which are used in Applicant's invention to provide for accommodation of different wavelengths. In Applicant's invention, the holographic element of Figure 1 functions like the lens 4 shown in '872 which is to focus the light on the CD or DVD. This adjustment in focal length is accomplished in '872 by a driving circuit 33 and driver 26 which adjusts the focal length by moving the lens 4. Applicant provides for focal length change by the different concentric gratings

A characteristic of Applicant's invention is the ability to converge two different optical wave lengths onto two optical recording surfaces having different disk thicknesses. For this reason the objective lens (4) of '872 is not needed in Applicant's invention. the claimed invention and the '872 disclosure are based upon different concepts.

Next, Applicant has rewritten claim 5 in independent form. Claim 5 requires that a luminous flux incident on the diffraction type lens be substantially parallel. This is depicted in Applicant's Figures 2A, 2B as well as Applicant's Figure 6. In contrast, the angles of incidence in '872 are anything but substantially parallel since the light is supplied from the laser

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diodes to the holographic lens element 50 from a point. Similarly, light is refocused on the holographic element by the lens 4 and there is no teaching that it is parallel or substantially parallel, see Figures 8 - 18.

United States Patent 6,545,821

Applicant encloses for the Examiner's convenience a copy of US Patent 6,545,821. Applicant has reviewed the '821 and has elected to file a Terminal Disclaimer in this application in light of the '821 patent. The effect of this Terminal Disclaimer is to make the expiration of any patent issuing on this application two days earlier because the filing date of '821 is March 14, 2001 and the filing date of this application is March 16, 2001.


In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance, and early action in accordance thereof is requested. In the event there is any reason why the application cannot be allowed in this current condition, it is respectfully requested that the Examiner contact

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the undersigned at the number listed below to resolve any problems
by Interview or Examiner's Amendment.

Respectfully submitted,



Ronald R. Snider
Reg. No. 24,962

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Snider & Associates
Ronald R. Snider
P.O. Box 27613
Washington, D.C. 20038-7613
(202) 347-2600

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